

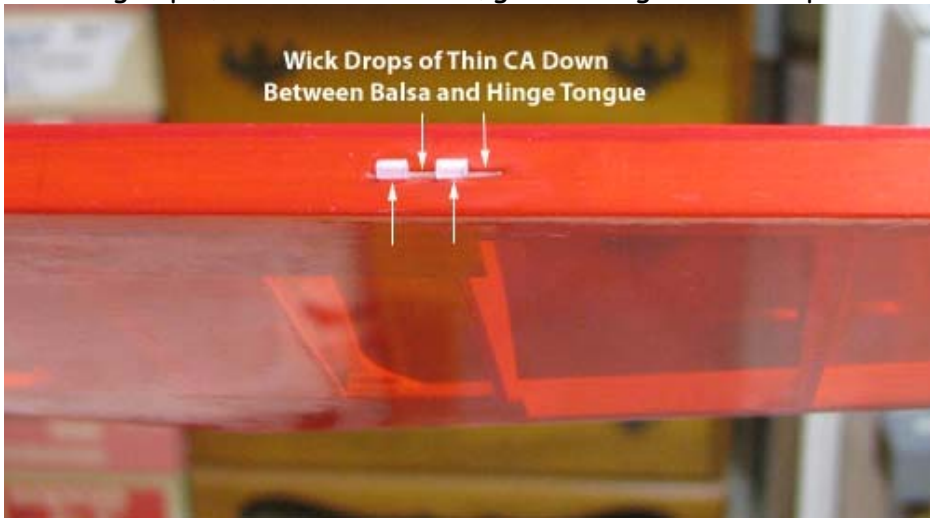
Dave Harding

From: Tandy C. Walker [tandyw@flash.net]
Sent: Sunday, March 07, 2010 4:56 PM
To: Undisclosed-Recipient: ;@smtp103.sbc.mail.mud.yahoo.com
Subject: 76 (Revision A) Speed 400 Cloudster - Hinging Elevator to Stab

(This revision includes the method used for retaining the hinge wires.)

Speed 400 Cloudster Project

Once the stab and elevator surfaces were covered with UltraCote Lite transparent red, the covering over the hinge slots were cut and the hinge halves were inserted into their slots. The hinge wires were reinserted and the hinges were completely realigned. Then the hinge wires were removed in order to permanently bond the hinge halves in their individual slots as shown below. I use thin drops of Jett CA to wick down in between the hinge tongue and the balsa slot in several places as shown below, which takes a pretty steady hand and lots of time. Much care has to be taken because if the CA ever wicks into the hinge loops you are deep trouble. For years I have blunted the tip of a straight pin with a file. A drop of CA is applied to the blunted end of the straight pin and used to apply the CA to the hinge. This takes a lot of practice and you waste a lot of thin CA trying to get the drop to stay on the end straight pin, but it can be done, given enough time and patience.



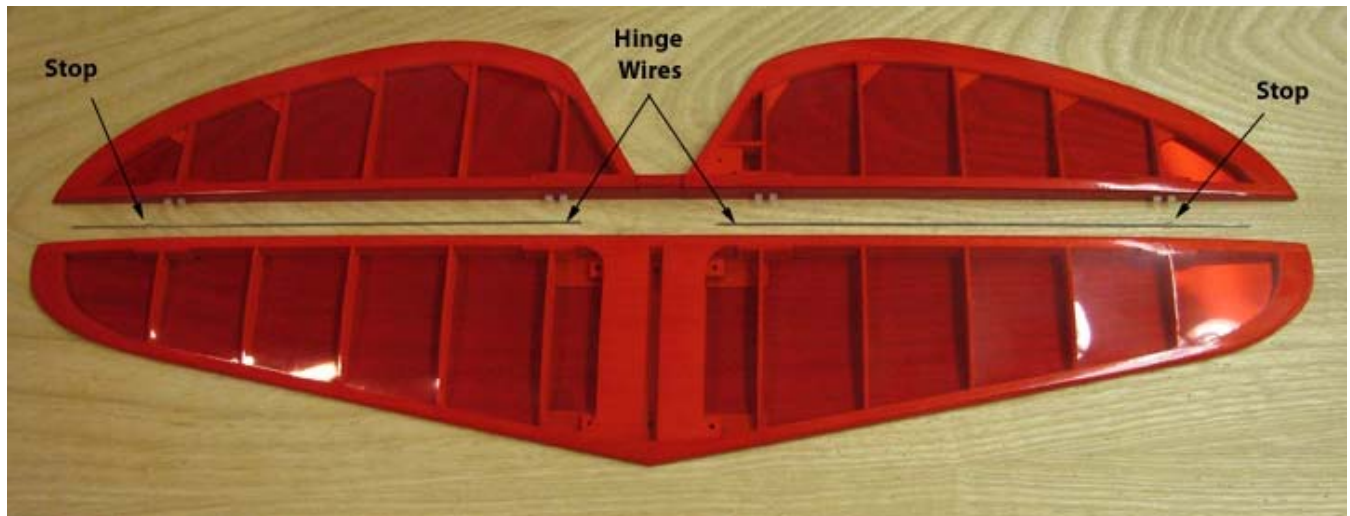
*****[GREAT TIP](#)*****

As I reported back in my Sailplane construction series, my friend James Lollar from Ada, Oklahoma, clued me in on how to accomplish this task almost effortlessly. For years he has used a sewing needle with the tip of the eye cut off as shown below. When he puts a drop of thin CA on the needle, the drop will always catch and stay in the fork due to surface tension. Then he can easily touch the fork to the desired spots on the hinge and the CA goes right into where he wants it. I completed bonding in all eight hinge halves on the stab and elevator in less than twenty minutes this morning. Now why had I never thought of this simple approach in all my years of modeling?

[Thanks James for the great tip!](#)



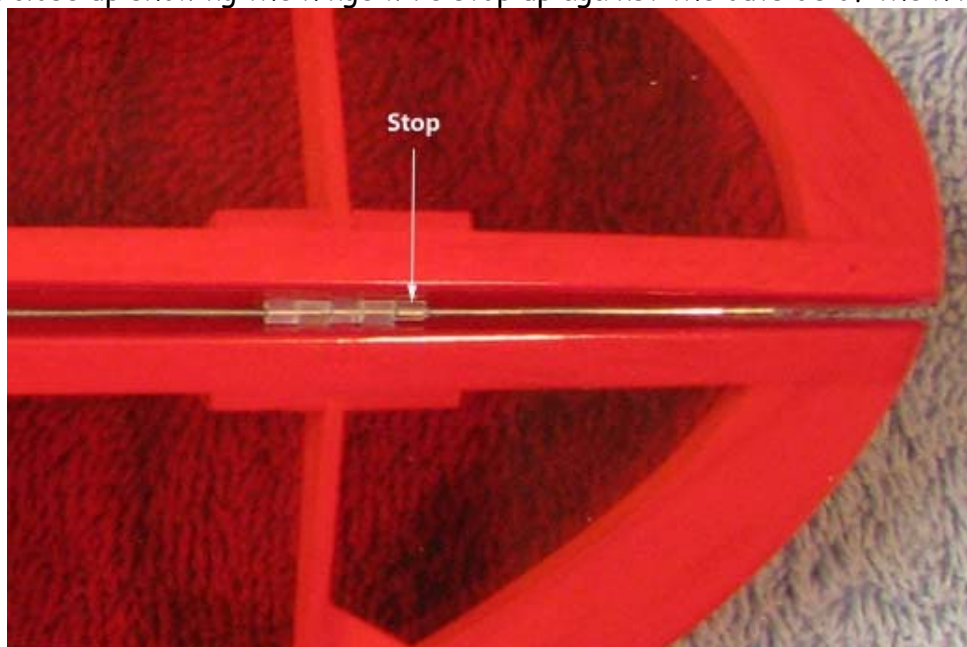
The 0.031" hinge piano wires were cut to their final length. A loop was cut off of an extra nylon hinge, positioned on the hinge wire, and CA's in place to serve as a stop for the hinge wire as shown below.



This is a picture of the right half of the horizontal tail with the elevator deflected down so you can see the continuous hinge wire installed.



This is a close up showing the hinge wire stop up against the outside of the hinge itself.



During final assembly, there will a "keeper" on the other end of the hinge wire like the one shown below on the stab/elevator combination of my Playboy Junior. The keeper is also made of a loop on extra nylon hinge. First thin CA is wicked into the loop. Holding the tongue of the hinge, the inside of the hinge loop is reamed out with a No. 69 drill bit (0.0292") so that a rather snug fit is achieved with the 0.031" hinge wire. Then the loop is cut off of the nylon hinge.



Now here comes the tricky part. To get the keeper onto the the end of the hinge wire, another wire with a little "L" bent on the end is inserted part way through the keeper. Using the wire with the L on ther end, the keeper is positioned at the end of the hinge wire, which is then pushed into the open side of the keeper. The back edge of a No. 11 X-acto blade is placed against the edge of the keeper and the keeper is pushed all the way onto the hinge wire. Now the stop is up against the outside hinge and the keeper is up against the inside hinge as shown above.

This completes the Cloudster's horizontal tail. The next task for this afternoon will be to start covering the wing.....Tandy